ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-02-04

Allotment Number and Name(s)

6007 Volcanic Tableland
6024 Hammil Valley
6025 Marble Creek
6030 Chalfant Valley
6038 Bramlette
6041 Jeffrey
6053 Lone Tree

BL M Bishop Field Office
Prepared
June 2002

CHAPTER 1:
INTRODUCTION

The Bureau of Land Management (BLM) is proposing to issue a 10 year grazing permit on these allotments to authorize livestock grazing. The approximate allotment Public Land acreage are:

Allotment Name	Public Land acres
Volcanic Tableland	44,006
Hammil Valley	41,320
Marble Creek	14,791
Bramlette	33,308
Chalfant Valley	13,140
Jeffrey	4,600
Lone Tree	3,559

The allotments are located in the Benton Management Area of the Bishop Field Office. Their elevation range is between 4,300 and 6,500 feet. Vegetation communities are a mix of Shadscale Scrub, Great Basin Big Sagebrush and Bitterbrush, along with other mixed desert shrubs.

Need for the Proposed Action

The proposed action is needed to authorize grazing in accordance with grazing regulation 43 CFR 4100 and be consistent with the provisions of the *Taylor Grazing Act, Public Rangelands Improvement Act, and Federal Land Policy and Management Act*. Action may be required to maintain or improve resource conditions including rangeland health. Status of existing permit/lease: The grazing permits for these allotments expired on 2/28/01. In accordance with the *National Environmental Policy Act* (NEPA), an Environmental Assessment (EA) must be prepared to analyze the affects of livestock grazing, in order to determine if re-authorizing the grazing permit(s) is appropriate.

Plan Conformance: The proposed action is subject to the following plan:

Bishop Resource Management Plan (RMP), approved on March 23, 1993.

The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)).

Remarks: The proposed action will occur in an area identified for livestock grazing in the Bishop Resource Management Plan. The proposed action is consistent with the land use decisions and resource management goals and objectives of the plan, pages 8 thru 23 and 40 thru 46.

The seven allotments meet all of the Secretary of Interior's Approved Rangeland Health Standards as indicated in the BLM California Rangeland Health Environmental Impact

Statement and Decisions Record of July 2000.
Rangeland Health field assessments of the Standards were completed on these dates:

Volcanic Tableland	April 2000
Hammil Valley	April 2001
Marble Creek	May 2000
Chalfant Valley	May 2000
Bramlette	June 2001
Jeffrey	May 2000
Lone Tree	May 2000

A database detailing the results of these assessments has been completed and is located in the resources/images/range computer directory at the BLM Bishop Field Office.

Relationship to Statues, Regulations, and Plans

Endangered Species

Several of the allotments are within the range of federally listed threatened or endangered species. However, no Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in these allotments. Pursuant to Section 7 of the Endangered Species Act, formal consultation with the Fish and Wildlife Service (FWS) is required on all allotments for which livestock grazing may affect listed species. The stipulations of any grazing permit may be modified to conform to the terms and conditions specified in a FWS biological opinion to minimize take of listed animal species. In addition, the terms and conditions of any grazing permit may also be modified to conform to decisions made to achieve recovery plan objectives as determined through subsequent land use plan amendments or revisions. All Section 7 consultations with FWS were completed in 2000.

Cultural Resources

California BLM has the responsibility to manage cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, the 1980 Rangeland Programmatic Memorandum of Agreement with the Advisory Council on Historic Places (WO IM 80-369), the 1997 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act, the State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (1998) and other internal policies.

The stipulations of any grazing permit may be modified to reflect the presence of cultural resources. Background site record and literature review will be conducted as a minimum level of review as part of the permit renewal EA. Present inventory will focus on known or suspected

areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, and salt block stations. In general, following the Bishop Field Office research design for grazing assessments (Halford 1999), all areas with a high probability for the congregation of cattle and for the occurrence of significant cultural resources will be field evaluated. The results of these analyses will be used to modify grazing permits to protect or mitigate impacts to cultural resources.

Wilderness

These allotments do not occur within any designated Wilderness Area. However, approximately 30% of Hammil Valley allotment (12,396 acres) occur within Wilderness Study Area (WSA) CA-010-079. Furthermore, approximately 70% of the Volcanic Tableland allotment (30,804) occurs within WSA CA-010-080 and WSA CA-010-081. Wilderness values are described in the 1979 Final Wilderness Intensive Inventory Report while the WSA's existing range and other improvements are identified in the 1990 California Statewide Wilderness Study Report (WSR). The Interim Management Policy for Lands Under Wilderness Review (IMP) provides direction for grazing management in WSAs until the WSA is designated wilderness or released from the wilderness review process. (See Appendix A)

Water Quality

Direction for implementation of the Federal Clean Water Act (CWA) of 1972 (P.L. 92-500, as amended) is provided by the Code of Federal Regulations (40 CFR) and by a variety of USEPA guidance documents on specific subjects. To meet the requirements of the CWA on public lands, BLM is currently developing a state-wide water quality management plan under an MOU with the California Water Resources Control Board. As part of the water quality plan, BLM is required to submit a listing of Best Management Practices (BMPs) to the state and to the U.S. Environmental Protection Agency for approval. Pursuant to the decisions affecting water quality in the Bishop Resource Management Plan, BMPs for the Field Office have been submitted to meet the requirements under the CWA.

Section 4180.1 of the Grazing Administration Regulations (4180.1, Federal Register Vol 60, No. 35, pg.9970) directs that certain conditions of rangeland health exist on public lands which include the statement that "water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives...." The Standards and Guidelines for Rangeland Health in the Central California area, as it applies to surface and groundwater resources and their quality have as a primary objective to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are a contributing factor). In the following instances the objective becomes a higher priority :

> (a) where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the CWA;

(b) where aquatic habitat is present or has been present for Federal threatened or endangered, candidate and other special status species dependent on water resources; and

(c) in designated water resource sensitive areas such as riparian and wetland areas.

Air Quality

The Benton Management Area does not lie within a Federal Air Quality Non-Attainment/ Maintenance Area. The Benton Management Area is located north of the Owens Valley Management Area, which, south of Tinemaha Reservoir, falls within a Federal Air Quality Non-Attainment/ Maintenance Area (Figure 1).

CHAPTER 2:
PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The proposed action is to continue present management, but with revised Terms and Conditions to the expiring Grazing Permits. The completed Rangeland Health allotment assessments document that continuation of livestock grazing, in the same manner and degree, complies with the intent of the Rangeland Health initiative and its Standards.

For the Marble Creek allotment, a separate EA: CA-170-00-008 Marble Creek allotment season of use change (Plan Amendment) in Fiscal Year 2000, was analyzed and approved for a specific grazing strategy. The EA is currently under appeal to the Office of Hearings and Appeals.

Terms and Conditions will be incorporated into the reissued Grazing Permits to ensure compliance with the Rangeland Health Standards and Guidelines and Bishop RMP decisions pertinent to livestock grazing.

A. Livestock Numbers and Season of Use

Allotment Name	Number	Kind	Season of Use	% Public Land	Permitted Use (animal unit months)	
Volcanic Tableland						
(I&M Sheep)	8,878	sheep	5/1 - 6/15	100	2,685	
(Bernal Sheep)	1,869	sheep	5/1 - 6/15	100	566	
					Total	3,251
Hammil Valley						
(Lone Tree)	172	cattle	10/1- 6/15	100	1,460	
(Blair Ranch)	59	cattle	10/1- 6/15	100	504	
					Total	6,500
Marble Creek	70	cattle	3/1 - 2/28	100	845	
					Total	845
Chalfant Valley	42	cattle	3/1 - 5/31	65	82	
	42	cattle	10/1 - 2/28	65	135	
					Total	217
Bramlette	82	cattle	10/1 - 5/31	100	655	
					Total	655
Jeffrey	34	cattle	3/1 - 5/15	100	87	
	34	cattle	10/1 - 2/28	100		170
					Total	257
Lone Tree	40	cattle	10/1 - 2/28	100	199	
	40	cattle	3/1 - 5/15	100		102
					Total	301

B. Range Improvements

There are no existing, nor any proposed new improvements, that need to be eliminated or constructed in order to maintain or achieve rangeland health.

C. Measures to Maintain or Achieve Standards (Revised Terms and Conditions of the Grazing Permit).

1. Grazing use is not to exceed 40% of annual growth on key forage species (all allotments) and leave a 4-6" stubble height on riparian vegetation.

2. No salt or other nutrient supplement placement or sheep bedding within 1/4 mile of creeks, aspen groves, meadows, sage grouse strutting grounds, or special status plant habitat.

3. No supplemental feeding (actual forage, i.e. hay) on public land or private lands that are unfenced from the public land at any time.

4. No trailing through a neighboring allotment without the BLM's authorization.

5. Grazing permits shall contain terms and conditions appropriate to achieve management and resource condition objectives for the public land, or to assist in the orderly administration of the public rangelands and to ensure conformance with the provisions of Subpart 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration). This is per Subpart 4130.3 Terms & Conditions and Subpart 4130.3-2 Other Terms and Conditions.

6. The authorized officer may modify terms and conditions of the permit when the active use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of 4180 (Fundamentals of Rangeland Health and Standards & Guidelines for Grazing Administration). This is per Subpart 4130.3-3 Modification of permits or leases.

D. Monitoring

Monitoring would consist of documenting utilization levels to ensure that grazing use does not exceed the 40% level. This would be done annually to assure compliance with terms and conditions of the permit. No long term monitoring methods to determine condition and trend are planned. At some future date, a reassessment of rangeland health may be done using the existing methodology as comparison to current conditions.

No Grazing Alternative

This alternative would result in not reissuing a grazing permit for these allotments. As a result, grazing would be eliminated. This would be a permanent cancellation. The BLM would be required to complete an RMP Plan Amendment process in accordance with BLM Planning Regulations.

CHAPTER 3:
ENVIRONMENTAL ANALYSIS

The 18 individual resource templates below combine, by resource, the affected environment, environmental consequences, and consultation sections of required elements of the EA. They include the standard critical elements of the human environment (appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock grazing.

Required Elements:

1. Air Quality

   The Benton Management Area is not located within the Federal Air Quality Non-Attainment/ Maintenance Area which is located south of Tinemaha Reservoir. For additional information regarding the Federal Air Quality Non-Attainment/ Maintenance Area, refer to the specific narrative addressed above in the Relationship to Statues, Regulations, and Plans section of this document.

2. Areas of Critical Environmental Concern (ACEC)

3. Cultural Resources

4. Environmental Justice

5. Farmlands, Prime or Unique

   The proposed action and no grazing alternatives would have no affect on Farmlands because none are present on any of the seven allotments.

6. Flood plains

   The proposed action and no grazing alternatives would have no affect on flood plains because there are none on the public lands on any of the seven allotments.

7. Invasive, Non-native Species

8. Native American Concerns

   The Native American Tribal Councils, for the seven tribes that reside within the Bishop Field Office jurisdiction, have been contacted and have not expressed any specific concerns relative to the affects of livestock grazing for these seven allotments. There are general concerns that are addressed below.

9. Recreation

The proposed action and no action alternative would have no affect on recreation because of the lack of proposed facilities or management practices that could potentially alter existing recreation uses or use patterns.

10. Social and Economic

11. Soil

12. Waste, Hazardous or Solid

The proposed action and no grazing alternatives would have no affect on Hazardous or Solid Waste as there are no sites occurring on these seven allotments.

13. Water Quality, Surface and Ground

14. Wetlands/Riparian Zones

15. Wild and Scenic Rivers

There are no designated Wild and Scenic Rivers within these allotments. However, a two mile portion of Fish Slough has been designated as eligible for wild and scenic river study. No grazing occurs in this area.

16. Wilderness

These allotments do not occur within any designated wilderness area. However, proposed grazing within the Wilderness Study Areas mentioned above in Relationship to Statutes, Regulations, and Plans would not impair wilderness qualities. Wilderness values of naturalness, outstanding opportunities for solitude, and a primitive or unconfined type of recreation would remain unaffected. If ecological improvements in plant and wildlife habitat occur, then naturalness would be enhanced. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to the specific narrative addressing these values in other parts of this document. In conclusion, proposed grazing within these two allotments would conform with the BLM Wilderness Interim Management Policy (IMP).

17. Wildlife

18. Wild Horses and Burros

The proposed action and no grazing alternatives would have no affect on Wild Horses

and Burros as there are no populations occurring on these seven allotments.

19. Vegetation

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

A. Affected Environment

Zone 1 of the ACEC, classified as the Fish Slough Ecological Area, includes the Owens Valley Native Fish Sanctuary, BLM Spring, and the main feeder springs, slough, and marsh of Fish Slough proper. Zone 2, classified as the Volcanic Tablelands western aquifer, includes the area to the northwest of Fish Slough proper, but is within the surface drainage basin to it. Zone 3, classified as the Volcanic Tablelands northern aquifer, includes the area to the north of Chidago Canyon to Red Rock Canyon, west of Hammil Valley. The ACEC was designated in 1984, encompassing nearly 36,000 acres, in recognition of the unique assemblage of resource values. Such values are: endangered species (plants and animals), wetlands, and archeological resources.
Hammil Valley contains approximately 9 sections (5,760 acres) which occur within Zone 2 and 3 of the Fish Slough ACEC.

Volcanic Tableland contains approximately 4 sections (2,560 acres) occur within Zone 1, 29 sections (18,560 acres) occur in Zone 2, and 0.75 section (480 acres) occur in Zone 3 of the Fish Slough ACEC.

A two mile portion of Fish Slough has been designated as eligible for wild and scenic river study.

B. Environmental Consequences

1. Impacts of Proposed Action

Cattle, customarily, graze the northwest corner of Zone 3 in proximity to the Yellow Jacket Pipeline. Use is not concentrated in any particular area of the allotment due to the low percentage of plant cover. Cattle, infrequently, graze the escarpment of the north eastern boundary of Zone 2 and the south eastern boundary of Zone 3. This is due to distance from available water and their preference for other foraging areas. Reissuing of the grazing permit would not create any new impacts.

2. Impacts on No Grazing

This alternative would result in an absolute elimination of the possibility of cattle entering Zone 2 and 3.

3. Cumulative Impacts

There would be no cumulative impacts under either alternative.

C. Consultation Previous consultation with the following agencies, which annually review the implementation and monitoring components of the ACEC plan:

U.S. Fish and Wildlife Service
Los Angeles Department of Water and Power
University of California, Natural Reserve System
California Department of Fish and Game

D. Maps Management Zones- Fish Slough ACEC (Figure 2)

E. References Ferren, W.R.1991. Biotic inventory and ecosystem characterization for Fish Slough: Inyo and Mono Counties, CA. Unpublished report by the Fish Slough Research Team of the University of California, Santa Barbara for the California Department of Fish and Game.
U.S. Fish and Wildlife Service. 1998. Owen Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California. Portland, Oregon

CULTURAL RESOURCES

A. Affected Environment

Located on the western fringe of the Great Basin physiographic province the Owens Valley region, incorporated within the Bishop Field Area, contains the highest archaeological site densities within the Great Basin (Basgall and McGuire 1988; Bettinger 1975, 1982). In 1981 and 1982 the BLM completed two Environmental Impact Statements (EIS) addressing grazing on public lands within the Bishop Field Area; "Proposed Livestock Grazing Management for the Benton-Owens Valley Planning Unit", 1981 and "Proposed Livestock Grazing Management for the Bodie-Coleville Planning Units", 1982. In both EIS's cultural resource reviews are limited to Class I literature searches of existing data. The general conclusion was:

> Livestock use impacts on cultural resources include: displacement (vertical and horizontal) and breakage of artifacts, and the mixing of depositional associations through trampling; destruction or enhanced deterioration of structures and features through rubbing; and an acceleration of natural erosional processes. Plants valued by Native American traditionalists could be trampled or consumed by livestock, adversely affecting plant availability at some locations. For purposes of analysis it is assumed that the impacts of livestock use are distributed in proportion to the actual distribution of livestock, with the most intensive impacts occurring at livestock use concentration areas. Cultural Resources

> located on lands having erosional or other types of watershed deterioration problems attributed to livestock use impacts are assumed to receive high impacts. Cultural resources are non-renewable, and impacts of livestock use on cultural resources are cumulative (Bodie-Coleville EIS 1982:4-92).

Using existing survey data (BLM 1978; Busby et al. 1979; Hall 1980; Kobori et al. 1980), site densities were predicted to range from 9 sites per square mile (m^2) in the Benton Planning Unit to 4 sites/m^2 in the Owens Valley Planning Unit, with an average of 9.54 sites/m^2 in the Bodie/Coleville Planning units.

Previous Research on Grazing Impacts to Cultural Resources

Relatively few studies have been undertaken to address the impacts of domestic livestock grazing to archaeological resources (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Osborn et al. 1987; Roney 1977; Thomas D. Burke, personal communication 1998), with more emphasis being placed on the effects of human trampling in site formation processes (see Nielson 1991). Nonetheless, the same conclusions have been drawn from these studies as summed by Nielson (1991).

> Intensive trampling modifies the horizontal distribution of artifacts, it obscures patterns existing in their original deposition, and eventually introduces new trends in their spatial arrangement. By producing vertical migration of materials it also can move artifacts across stratigraphic units, and mix in the same deposits items originating in different occupations. When trodden, artifacts undergo several types of damage, like breakage, micro-chipping and abrasion. The resulting traces sometimes mimic the damage produced by use or by other post-depositional processes and therefore can lead unwittingly to erroneous functional interpretations (Nielson 1991:483-484).

Variables influencing the level of impact at any given site include: 1) soil type (e.g., hard or rocky soil substrates will lead to greater artifact damage and horizontal displacement); 2) soil moisture (e.g., wet soils will lead to greater vertical displacement and stratigraphic mixing); 3) vegetation type/ground cover (depending on site landform specifics, erosion may increase as vegetation cover decreases resulting in significant secondary impacts); and 4) intensity of grazing.

The studies reviewed here are experimental tests of trampling impacts (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Nielson 1991; Osborn et al. 1987; Roney 1977). All of the studies found that smaller artifacts (< 2 g [ASPPN 1991]) tend to migrate vertically more readily than larger artifacts thus biasing site interpretation in cases where no subsurface analyses are involved. In a controlled experiment within a portable corral, Roney (1977) found that after 40 hours, in which 78 cows were rotated through the corral, that only (5%) of 60 flaked stone artifacts could be found on the surface. The hard soil substrate was churned to a fine dust to 5 cm, 81% of the artifacts were horizontally displaced up to .75 m

and 48% were damaged and broken. Roney (1977) concluded that "...cattle do produce significant physical damage to lithic artifacts."

Nielson (1991), in his assessment of human trampling, found the same trends with top soil loosening occurring to 1-2 cm on a hard soil substrate with subsoils being compacted. Again smaller items tended to migrate downward, but were less apt to move horizontally than large specimens. Sixty percent of the lithic debitage showed damage ranging from abrasion, microflaking, and breakage. As would be expected, ceramics showed the greatest level of impact with a random distribution of sizes being reduced to a skewed, unimodal distribution dominated by smaller size classes less than 30 cm in diameter. We can predict that cattle impacts would be highly magnified over Nielson's (1991) results from his studies on human trampling, but would follow the same trends.

In field visits Tom Burke (personal communication 1998), owner and principal investigator of Archaeological Research Services, Inc., has found cattle grazing to have "substantial adverse effect to archaeological site integrity". In heavy use areas mixing can occur up to 10-20 cm in most conditions and up to 30-40 cm in wet conditions. The author's field investigations corroborate Burke's assessments. As would be expected, Burke has found impacts to be highest in areas where cattle tend to congregate such as springs, water courses, troughs, shade zones, and salt licks. The zone of impact around such features extends from 25-100 meters, with a linear pattern of roughly 25 to 50 meters following stream courses. Field assessments in the Bishop Field Area support these observations.
In summary, it can be concluded that livestock grazing can have adverse effects to archaeological resources causing artifact damage, movement, and mixing. In the case of standing structures, cattle rubbing or scratching can cause severe impacts causing structure degradation and collapse (Chuck Fell, Bodie State Historical Park, personal communication 1995). Intensity of grazing, soil hardness, moisture, vegetation cover, and type are factors influencing the level and types of impacts. Erosion is a secondary impact resulting from grazing that can also have negative effects to cultural sites. The areas of greatest concern are those locations where cattle congregate and tend to spend a large percentage of their time. In zones where cattle are more dispersed, such as upland locations, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts. In rocky areas and zones without sufficient feed very little to no cattle impact is expected to occur (field observations 1999).

B. Environmental Consequences

1. Impacts of Proposed Action

In the past, sheep bedding on a village site has caused impacts. However, cattle and sheep use on the subject allotments is generally highly dispersed. Sheep operators are to use old camp, bedding, and watering sites. Sheep operators are required to avoid all archeological sites and there is to be no sheep grazing, trailing, or watering in Zone 1 of ACEC. Due to the fact that no known sites occur within areas of heavy congregation, impacts to cultural properties are

predicted to be minimal as a result of the proposed action.

2. Impacts of No Grazing

This alternative would eliminate all threats of damage to cultural properties that could result from the proposed action.

3. Cumulative Impacts

Cultural resources would be cumulatively affected from a variety of actions including livestock grazing. Continued trailing through a site may cause horizontal movement of artifacts, including artifact damage and wear. These types of impacts will be, generally, highly localized and would not adversely affect those properties of a given site which may make it eligible for listing on the National Register of Historic Places. Areas of continual cattle congregation and those where wallowing is prevalent can result in significant cumulative impacts to a cultural property, causing both horizontal and vertical mixing of deposits, artifact damage, and negative impacts to features such as living floors, hearths, and house structures. Due to the fact that no known sites occur within areas of congregation on the subject allotments, no adverse impacts are predicted to occur as a result of the proposed action.

C. Consultation

Thomas D. Burke, personal communication 1998, concerning grazing impacts to archaeological resources.

Chuck Fell, Bodie State Historical Park, personal communication 1995, concerning impacts to historic buildings and resources.

D. Maps None, due to the proprietary nature of the cultural resource information.

E. References

ASPPN. 1990. Impacts Of Domestic Livestock Grazing On Archaeological Resources Archaeological Sites Protection and Preservation Notebook, Technical Notes I-15. U.S. Army Engineer Waterways Experiment Station, Vicksburg MS.

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Hall, M.C. 1980. Surface Archaeology of the Bodie Hills Geothermal Area, Mono County, California. United States Department of the Interior, Bureau of Land Management, Bakersfield District.

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Roney, John. 1977. Livestock And Lithics: The Effects Of Trampling. On file at the Department of Interior, Bureau of Land Management, Winnemuca District Office. Winnemuca, NV.

ENVIRONMENTAL JUSTICE

A. Affected Environment

There are no low-income or minority populations living on any of the allotments.

There are seven Native American communities in the Eastern Sierra which are near allotments. Members of these communities do some hunting and subsistence collecting of materials from public lands on various allotments – pinyon nuts, basket weaving materials, medicinal plants, etc.

There may be some low-income Hispanic or other ethnic minorities working on various allotments, working for some of the cattle and sheep operations. Depending upon actual decisions made, there may be some impacts to certain individuals.

B. Environmental Consequences

1. Impacts of Proposed Action

Continued livestock grazing would have no affect upon any low-income or minority populations. If any changes in grazing operations are required, there may be a loss of a job to a member of a low-income or minority population. There may also be new jobs created. Any such impacts would be limited to a single job here or there and there would not be a disproportionate impact, either negative or positive, to such a group.

2. No Grazing

If there were no grazing allowed on public land, there may be a loss of some jobs to members of a low-income or minority population. Any such impacts would be limited to a single job here or there and would not be a disproportionate impact to such a group.

There might be a slight positive impact to some groups through increased availability of some resources that are collected on public lands. This would however vary by area and type of resource, and would probably be minimal.

3. Cumulative Impacts

Cumulative impacts to low income or minority populations from past, present, and reasonably foreseeable public or private actions including any actions on non federal lands would be extremely low and would not be disproportionate to impacts on other segments of the population under any of the alternatives. A "no grazing" scenario would potentially have the most negative impact, but again, would not be disproportionate to the low income or minority population.

C. Consultation

There are seven Native American communities in the Eastern Sierra which are near allotments.

When we began the allotment assessment process in 1999, these communities were all contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the

allotment assessment process. The communities either said that there were no impacts or decided not to comment / participate. None indicated a desire or need to participate in the assessment process. (Consultation log available for FY99)

Each of the tribal offices was contacted again by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Again, they stated that there are no impacts to their communities by the grazing program that could be construed as disproportionate impacts under the Environmental Justice criteria. (Consultation log available for FY2001)

A couple of the communities expressed some specific concerns that are addressed in the Native American Consultation section of the document.

INVASIVE, NON-NATIVE SPECIES

A. Affected Environment

Allotment	**Invasive Species**	**Estimated % Cover**
Volcanic Tableland	*Bromus madritensis ssp. rubens*, *Bromus tectorum, Schismus arabicus*	
Hammil Valley	None present	

Marble Creek	*Bromus madritensis ssp. rubens*, *Schismus arabicus*	5% and 5%
Chalfant Valley	*Bromus madritensis ssp. rubens*	Trace
Jeffrey	None present	
Lone Tree	*Bromus madritensis ssp. rubens, Schismus arabicus*	10% and 10%
Bramlette	*Halogeton glomeratus* in association with Pumice Mine.	15-20%

Currently, the density of invasive, non-native plant species is low except within the abandoned Pumice Mine, and is not affecting native species composition or vigor on the allotment or contributing to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mychorrhizal densities (Bethlenfalvay and Dakessian 1984). Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and density of these non-native species.

It should be noted that the current permittee for these allotments, Lone Tree Cattle, Co. does graze cattle in Fish Slough on a Los Angeles Department of Water and Power (DWP) lease. Recently, a population of *Lepidium latifolium* (perennial pepperweed) was discovered on this DWP lease and there is a high probability that cattle are infested with seed and plant material from this species. The permittee has been contacted and told that his cattle will need to be quarantined and checked for weed material prior to turn-out onto public lands.

B. Environmental Consequences

1. Impacts of Proposed Action

Provisions for grazing before seed set of these species has been included in allotment grazing

stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasives (Olson 1999) by reducing inputs into the seed bank of particular sites. Other potential long-term impacts of the proposed action if weed densities increase include a reduction in native plant cover and vigor (below and above ground production), increased erosion leading to increased germination of invasive weed seed (Evans and Young 1972), and a reduction in mychorrhizal populations. Currently, the cover values for these species is low which will likely reduce the chance for rapid spread of these species if grazing timing stipulations are judiciously complied with.

2. No Grazing

No grazing before seed set of these invasive species could increase the seedbank inputs into particular sites over time and potentially increase the density of some of these invasive, non-native species. However, no grazing would also reduce the chances that residual weed seed from sites is spread to new areas and would minimize the likelihood that the other long-term impacts discussed above would occur.

3. Cumulative Impacts

Cumulative impacts under the Proposed Action and No Grazing alternatives would include Off-highway vehicle (OHV) use that would exacerbate the spread of invasive weeds. The only unregulated OHV use currently identified is occurring just south of Chidago Canyon, east of the Fish Slough road.

C. Consultation

Coordination with the Eastern Sierra Weed Management Area and California Native Plant Society, Bristlecone Chapter

D. References

Evans, R.D. and J.A. Young. 1972. Microsite requirements for establishment of annual rangeland weeds. Weed Science. 18:154-161

Bethlenfalvay, G.J., and S. Dakessian. 1984. Grazing effects on mycorrhizal colonization and floristic composition of vegetation on a semiarid range in norther Nevada. Journal of Range Management 37: 312-316

Olson , B.E. 1999. Grazing and weeds. Pages 85-97 in R.L. Sheley and J.K. Petroff, editors. Biology and management of noxious rangeland weeds. Oregon State University Press, Corvallis, Oregon.

NATIVE AMERICAN CONCERNS

A. Affected Environment

There are seven Native American communities in the Eastern Sierra. All of the communities are near, and in some cases even surrounded by, one or more allotments. None of the communities are living on an allotment. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of the allotments.

Some members of these communities hunt and some do some subsistence collecting of materials from public lands – pinyon nuts, basket weaving materials, medicinal plants, fire wood, etc. However, this is general use and there were no specific "traditional use areas" identified by any of the Tribes on any of the allotments. Any other traditional uses or use areas have not been divulged to this office.

Some general concerns mentioned by the Tribes are:

- They have general concerns with overgrazing and want us to control overgrazing to protect the ecosystem and ensure that it is functioning properly
- They have concerns that water (or other) developments not impact cultural sites and that they not affect deer habitat (through de-watering streams / springs, or trampling of habitat around new troughs, etc.)
- They do not want cattle grazing on top of individual burials or grave sites or within known Native American cemeteries
- They do not want sheep bedding on top of cultural sites
- They do not want BLM to use herbicides on plants that they might collect
- They do not want BLM to cut / remove pinyon

All project development proposals are examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat, and cultural resources. This practice will continue under all alternatives.

Herbicides are used very sparingly and only in certain very restricted circumstances. Any potential application is examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat, and cultural / traditional uses. This practice will continue under all alternatives.

There are no Pinyon in these allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

The Assessment showed that there is no overgrazing in these allotments, that they are in proper functioning condition. The intent is to keep the ecosystem functioning properly.

A cultural inventory and assessment is being done as part of the allotment assessment process. This cultural inventory and assessment will identify any current problems (water projects, fences, livestock bedding areas) causing impacts to cultural sites, including burials, so that they may be corrected.

2. No Grazing

Removing grazing would generally result in fewer impacts to the natural environment, thus alleviating the Native American concerns with overgrazing, water project development, grazing impacts to cultural resources/burial sites, etc.

3. Cumulative Impacts

The cumulative impacts of doing the allotment assessments and of issuing grazing permits within the requirements of the standards and guidelines will result in the long term protection and improvement of the ecosystems found within the jurisdiction of the Bishop Field Office – better habitats for plants and animals, protection of cultural sites, etc. These improvements, coupled with continued coordination and consultation with the Tribes, should result in BLM addressing the Tribes' concerns in a manner agreeable to the Tribes.

C. Consultation

All seven Native American communities – Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted in January 1999 by letter, with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or decided not to comment / participate. (Consultation log available for FY99)

Each of the tribal offices was contacted by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Various individuals stated some general concerns which are addressed above; but again, they stated that there are no direct specific impacts to their communities or to their community members by the grazing program. (Consultation log available for FY2001)

SOCIAL AND ECONOMIC VALUES

A. Affected Environment

Regionally livestock operations involve use of BLM, Forest Service (USFS), or City of Los

Angeles Department of Water & Power lands. These seven allotments have seven permittees. I & M Sheep (2,685 AUMs) and Bernal Sheep (566 AUMs) both contain permits for the Volcanic Tableland allotment. Lone Tree Cattle Company (1460 AUMs) and Blair 7IL Ranch (504 AUMs) both contain permits for the Hammil Valley allotment. Lone Tree Cattle Company (845 AUMs) also has permitted use for the Marble Creek allotment while the Blair 7IL Ranch (301 AUMs) has a permit for the Lone Tree allotment. William and Thomas Talbot hold the grazing permit for Chalfant Valley. Joan Daynes (655 AUMs) contains the grazing permit for the Bramlette allotment. Finally, White Mountain Ranch holds the grazing permit for the Jeffrey allotment. There is a careful balance of head numbers and seasons of use for grazing these allotments such that any substantial change of use would negatively affect their overall operation. Having other permits or lease land available does not in itself lead to increased flexibility.

The local economy is benefitted by these grazing operations from monies spent to establish and maintain a ranching operation and contributes to the labor force. This is true of any privately owned business. Inyo and Mono County totaled $ 35,635,020 in agriculture production for 2000 which was an 8% increase from 1999. In Inyo County agriculture ranks third, behind recreation/tourism and government agency operations, as an economic production sector. Of a 100% total in agricultural values, livestock production accounted for 51% in year 2000. This amounted to $ 7,438,970 or 51% of the total $ 14,481,970 agricultural production. In Mono County for year 2000, livestock production accounted for 47% of a 100% total in agricultural values. This amounted to $ 9,980,350 or 47% of the total $ 21,153,050 agriculture production. On a state-wide average, for every $1.00 in agricultural production, there is a $3.00 value to the economy.

B. Environmental Consequences

1. Impacts of Proposed Action

The local economy is benefitted by these grazing operations from monies spent to establish and maintain a ranching operation and contributions to the labor force. This is true of any privately owned business. Sustaining these operations, from continued use of BLM allotments, would have a positive economic affect on the stability of their overall livestock operation. The social value of retaining a rural, agricultural lifestyle would be preserved and would be in keeping with the public's perception of the Owens Valley's western culture. The proposed action will not impact the social and economic stability of these ranching operations.

2. No Grazing Alternative

If grazing were terminated on these BLM allotments, there would be slight to moderate impacts to the operators. The grazing capacity of their DWP leases may not accommodate the increased use or meet DWP's management requirements of those lands. The permittees may be forced to stock fewer numbers of livestock. The BLM may experience criticism resulting from this decision from its local constituency.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

George Milovich, Agricultural Commissioner Inyo-Mono Counties (personal communication).

D. Maps

None

E. References - 2000 Annual Crop and Livestock Report, Inyo- Mono Counties (prepared April 17, 2001)

SOILS

A. Affected Environment

The soil classification of the allotments have been mapped in detail by the Natural Resource Conservation Service (NRCS). Two general soil types exist on the eight allotments. The first soil type is soils of the volcanic tableland and old terraces region which are very shallow to very deep, well to somewhat excessively drained ashy loamy sands. The second soil type is soils of the stony alluvial fans which are mostly very deep, well to somewhat excessively drained sands, loamy sands, and sandy loams. Both soils tend to limit the establishment of seeds and seedling development because of the sand to cobble structure. Furthermore, soils in the seven allotments are predominantly a volcanic tableland association that are very shallow which restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ash loamy sands are inclusions occurring within depressions or valleys between the slopes. These soils are well drained, which provide a more favorable habitat for both grasses and mixed desert shrub species.

Erosion potential of these soils range from slight to moderate on the valley floor due to wind erosion and can be somewhat attributable to the effects of cattle grazing and hoof action which disturbs the soil surface. Valley floor soils may also have inclusions of calcareous loam along remnant river terraces that exhibit duripans which inhibit water infiltration and restrict shrub rooting depths. The erosion potential on the alluvial fans is low due to the gravelly surface texture and low occurrence of cattle use compared with the valley floor. There are no identified erosional problems on these allotments.

BLM assessed these allotment in 1999 and 2000 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

B. Environmental Consequences

1. Impacts of Proposed Action

The proposed action will not result in not meeting the standards for soils.

2. No Grazing

The proposed action will not result in not meeting the standards for soils.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

Reference to Benton Owens Valley Soil Survey as updated by NRCS.

D. Maps

None

E. References

Bishop Resource Management Plan and Environmental Impact Statement, August 1991
Benton-Owens Valley Planning Unit, Draft Environmental Impact Statement

WATER QUALITY, SURFACE AND GROUND WATER

A. Affected Environment

Perennial surface water occurs in 4 of the 7 grazing allotments in the form of streams and natural springs. The Lone Tree allotment is devoid of any surface water sources on public land. The Hammil Valley allotment is almost devoid of surface water except for the very slight occasional flow of water from Yellowjacket Spring from private land onto public and a spring which produces a few gallons per minute flow in T.2S., R.31E., Section 26 and has not been inventoried. There is poor water distribution in the Chalfant Valley, Bramlette and Jeffrey allotments, mostly in the form of natural springs. Only one spring, in the Chalfant Valley allotment, has a moderate flow (approximately 0.2cfs) which provides a stream environment approximately ¼ mile long.

The Marble Creek allotment contains the most surface water with all or portions of 4 streams flowing across the length of public land from the White Mountains. Water distribution is relatively poor across the allotment due to the substantial distances between each of the streams.

Marble Creek is the only stream that traverses the entire alluvial fan from the point of exit from the White Mountains to its intersection with private land west of Highway 6. An estimated average flow in Marble Creek is 1.0cfs.

Water quality for the streams (Birch, Marble, Montgomery, and Pellisier in the Marble Creek allotment, Morris Creek in the Bramlette allotment, and Millner Creek in the Jeffrey allotment) fall well within secondary drinking water standards for measured constituents like $CaCO_3$, CO_2, pH, total dissolved solids (conductivity), and turbidity. A complete analysis for secondary drinking water constituents has never been performed on any stream. For short time periods lasting a few days to several weeks, water quality in Marble Creek has been degraded due to suspended sediment deposition from bank trampling by cattle grazing. Water quality is not known to be substantively affected by livestock grazing in other water sources.

Other indicators of water quality, like the presence/absence, diversity, and abundance of aquatic macroinvertebrate species, are potentially helpful especially when monitored over a sufficient span of time. Data along this line are not available for the above streams. Families of aquatic insects like the Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) are often sensitive (absent or poorly represented) to the presence of toxic substances and general poor water quality conditions. A one time sampling of aquatic invertebrates for Marble, Montgomery, and Pellisier creeks found several species within the three families present in Marble Creek, and a few species of Ephemeroptera present in Montgomery and Pellisier Creek; providing some additional evidence of good to fair water quality.

Water quality constituents examined on the streams are absent on the few springs within the allotments. Generally the springs are unperturbed by livestock or other human related use. The presence of a particular species of amphipod in two springs (inventory #'s 6-10-1c and 6-11-1c, Chalfant Valley allotment) is indicative of good water quality.

There is no information known for water quality relating to groundwater.

B. Environmental Consequences

1. Impacts of Proposed Action

Water quality should be maintained in all sources or slightly improved (Marble Creek) with implementation of the proposed terms and conditions. Improvement on residual stubble height post grazing would have the affect of diminishing sediment transport into the channel and improving water quality.

2. No Grazing

Water quality would be expected to remain at or near the current conditions if no grazing occurred. Increased stubble height would have the affect of diminishing sediment transport into the channel. The lower portion of Marble Creek would be restored to good water quality.

3. Cumulative Impacts

Implementation of the proposed action will, at a minimum, maintain the good water quality conditions at the various sources. In the case of Marble Creek, water quality should be improved by limiting the amount of livestock use on the lower 1 + mile of the stream in conformance to maintaining a residual stubble height along the stream banks.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office, 1986 Water Supply Inventory, files.
Bishop Field Office, 1978 Stream Inventory, files.

WETLANDS/RIPARIAN ZONES (CRITICAL ELEMENT)

A. Affected Environment

Springs

The Chalfant Allotment contains several springs that are dominated by an overstory of willow (*S. lutea, S. lasiolepis*), rose (*Rosa woodsii* var. *ultramontana*) and an aquatic understory of *Lemna, Potomogeton* and *Rorippa* species, as well as bank forbs such as cardinal monkey flower (*Mimulus cardinalis*), streamside paintbrush (*Castilleja miniata*), and stream orchid *(Epipactis gigantea*). Tamarisk has been treated at spring #6-10-1C in the southern portion of the allotment and no other site infestations have been found. In the vicinity of spring #6-10-1C, there is also an alkali meadow community which has a small population of *Calochortus excavatus*. None of these spring complexes have been impacted by cattle grazing.

The one natural spring and associated riparian vegetation in the Hammil Valley allotment (no inventory number; T.2S., R.31E., Section 26) is in good condition with little to no impact from livestock grazing or other historic use. Spring #9-19-1B in the extreme north portion of the Bramlette allotment has a very small complement of riparian vegetation in good condition. At this spring, the deeply incised drainage and near vertical high banks undergo frequent erosive processes which limits the amount of riparian vegetation. The other natural spring in the southwest corner of the allotment has not been inventoried. However, the riparian vegetation at this site appears to be in excellent condition.

Streams

Riparian vegetation on the Marble Creek allotment is found along the entire length of Marble Creek, along Montgomery Creek, Birch Creek and along Pellisier Creek for about 1/4 mile. The primary woody species are willows *(Salix lutea, S. lasiolepis, S. exigua)* and wild roses *(Rosa woodsii* var *ultramontana)*. Herbaceous species are primarily comprised of bluegrasses *(Poa spp.),* sedges *(Scirpus* and *Carex spp.)* and rushes *(Juncus spp.)*.

Marble Creek is a perennial stream flowing across more than three miles of public land. The condition of riparian vegetation on the upper 2 miles of Marble Creek is generally good. The upper reach is densely vegetated and well shaded, and root systems bind the soil of the channel. Here the stream is surrounded by dense mature willows which function as a natural fence, promoting understory growth and protecting stream banks from erosion along much of the stream while allowing cattle access to water in several places. This reach is in Proper Functioning Condition (PFC) (BLM 1998) and meets riparian Desired Plant Community (DPC) goals established by the 1993 RMP.

The lower 1.2 mile of Marble Creek is in a degraded condition and growth of woody vegetation has been held in check by grazing. As a result, the stream banks are not protected from cattle access and are subject to trampling, breakage, and compaction and resultant instability. Stream survey files documented poor condition of this reach in 1978, due to livestock use (BLM 1978); its condition improved somewhat during periods of non-use since that time, but remains degraded compared to the upstream reach. This reach is in Functioning At Risk condition. Vegetation does not meet DPC goals in this reach.

Riparian vegetation on Montgomery Creek was assessed to be in a Non Functional Condition (BLM 1998) in 1993. Riparian conditions have improved on some segments of the stream since that time but the overall physical condition of the channel is easily modified by flood flow. The stream, generally, does not meet the DPC goals. The stream channel is prone to instability due to the soil type consisting of large boulders and cobble with silt. There are essentially no gravels to stabilize the channel bottom or banks. Livestock grazing is not a factor.

Birch and Pellisier Creeks have good riparian vegetation conditions with stable banks on Birch Creek and unstable banks along Pellisier Creek due to discontinuous flow on BLM land. Birch Creek was assessed to be in Proper Functioning Condition with Pellisier Creek in a Functioning at Risk Condition. Livestock grazing was not a factor.

Streams in other allotments, like Coldwater and Morris Creeks, have good riparian vegetation conditions and stable banks. Coldwater Creek is in Proper Functioning Condition while Morris Creek has not been assessed for functional condition since the entire portion on BLM land is an artificial channel. Millner Creek has no riparian vegetation due to catastrophic flood events which have occurred twice in the past 20 years and due to all water being diverted into a small hydroelectric project penstock on Inyo National Forest land.

B. Environmental Consequences

1. Impacts of Proposed Action

Implementation of the proposed action should improve riparian vegetation conditions on the lower 1+ mile of Marble Creek but likely would not attain a Proper Functioning Condition status. The only means currently available to recover the lower portion of Marble Creek to PFC level would be with a fence exclosure as occurs just upstream from this degraded area. Conditions on the other streams and springs will unlikely change from their current status due to little or no livestock use currently occurring on those sources.

2. No Grazing

Riparian habitat and stream channel condition would improve to a Proper Functioning Condition status on the lower 1+ mile of Marble Creek. Conditions on the other streams and springs would unlikely change from their current status due to little or no livestock use currently occurring on those sources.

3. Cumulative Impacts

Implementation of the proposed action should promote restoration of riparian habitat condition with consequent improved water quality condition on the lower 1+ mile of Marble Creek.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office, 1978 Stream Inventory, files.
Bishop Field Office, 1986 Water Supply Inventory, files.
Bishop Field Office, 1993 Assessment of Functional Condition on Streams, files.

WILDLIFE

A. Affected Environment

Uplands

Plant communities are identified as salt bush scrub, shadscale scrub and sagebrush/bitterbrush. Common small mammals, reptiles, and birds are distributed throughout these communities, as sampled by a 1978 wildlife inventory that included these habitat types.

Small mammals include black-tailed hare, Audubon cottontail rabbit, white-tailed antelope ground squirrel, Panamint kangaroo rat, long tail pocket mouse, canyon mouse, pinyon mouse, western harvest mouse, and desert wood rat. Coyotes are a common mammalian predator in these habitats.

Reptiles of these habitat types include sagebrush lizard, side-blotched lizard, desert horned lizard, western whiptail, western fence lizard, gopher snake, speckled rattlesnake, Mojave rattlesnake, and sidewinder.

Birds likely to breed in these communities include black-throated sparrow, Brewer's sparrow, sage sparrow, rock wren, blue-gray gnatcatcher, rufous-sided towhee, chipping sparrow, Say's phoebe, Bewick's wren, and house finch. The three sparrows are species of interest because they are considered sagebrush obligates and may be declining range-wide as a result of loss of sagebrush habitat, although in this area they are known to breed in other desert shrub communities. Upland game birds - chukar (non-native), California quail, and mourning dove may reside and breed near water sources, in particular along the foothills of the White Mountains.
The area is used by winter resident raptors including Cooper's hawk and rough-legged hawk, and breeding resident species including northern harrier, red-tailed hawk, golden eagle, prairie falcon, barn owl, and great horned owl.

Mule deer primarily use portions of the Bramlette, Marble Creek, Hammil Valley, Lone Tree, and Volcanic Tableland allotments for winter range. The sagebrush/bitterbrush sites within these allotments provide critically important forage and cover for mule deer. Water sources are very unevenly distributed across these allotments and in combination with deep snow conditions in some winters forces mule deer to concentrate on limited sagebrush/bitterbrush areas east of Highway 6. Ensuring sufficient forage is maintained on bitterbrush after grazing by livestock is essential to survival of several hundred mule deer, especially across the Marble Creek alluvial fan.

Riparian

The streams and springs (see Wetland/Riparian section above) provide highly productive habitat, of lesser acreage, for many of the species mentioned under the Upland areas. In addition, some songbird species are dependent on these communities for breeding and foraging. Songbirds in this group include Bewick's wren, black-headed grosbeak, black-throated sparrow, blue grosbeak, Brewer's blackbird, brown-headed cowbird, bushtit, California quail, Costa's hummingbird, house finch, lazuli bunting, MacGillivray's warbler, mourning dove, sage sparrow, song sparrow, spotted towhee, and warbling vireo. The three sparrows are species of

interest because they are sagebrush obligates and may be declining range-wide as a result of sagebrush habitat loss.

A unique species of gastropod (a springsnail, *Pyrgulopsis owensensis*) occurs in the springs located south of Piute Creek (dry). These sites are the most northern populations of this spring inhabiting snail in the eastern Sierra region. There has been no degradation to these aquatic habitats from livestock grazing or other causes.

Threatened or Endangered Species: No threatened or endangered species are known to occupy habitat within these allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

The overall habitat quality of the allotments should be improved from their current conditions with implementation of the proposed terms and conditions. Species guilds like rodents and songbirds should reap the most immediate benefit from improvement in the availability of food resources and cover.

2. No Grazing

Overall, wildlife habitat conditions would be improved, particularly in the immediate effects for species guilds like rodents. Granivorous rodents would likely benefit, over time, by an increased volume of seed producing plant species. The typical consequence would be a somewhat increased rodent population benefitting predatory species groups like canids and raptors. Other species guilds, like songbirds should benefit from restored riparian vegetation on the lower portion of Marble Creek.

3. Cumulative Impacts

Improved condition in the native bunch grasses should provide an increased forage base for rodents and passerine birds across all allotments. Populations of these smaller animals should be positively influenced and in some years provide an improved opportunity for hunting by canids and predatory birds.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office, Benton Unit Resource Analysis, Step III, 1979.

Hershler, Robert. 1989. Springsnails (Gastropoda: Hydrobiidae) of Owens and Amargosa River (exclusive of Ash Meadows) drainages, Death Valley system, California-Nevada. Proceed. Biol. Soc. Wash. 102(1):176-248.

VEGETATION

A. Affected Environment

Uplands

A baseline range inventory for these allotments was completed in 1977 and correlated to the recently completed 1999 NRCS soil/vegetation inventory to document plant cover and composition as well as develop updated ecological site descriptions. The allotments occur in the Great Basin and Northern Mojave Floristic Provinces. The dominant plant communities are mixed desert scrub, shadscale scrub and sagebrush/bitterbrush. Shadscale scrub is dominated by shadscale (*Atriplex confertifolia)* and budsage (*Artemisia spinescens)* with a sparse (15% or less) understory of desert needlegrass (*Achnatherum speciosum)* and Indian rice grass (*Achnatherum hymenoides)* (Barbour and Major 1977). Additional species include, but are not limited to: hop sage (*Grayia spinosa),* horsebrush (*Tetradymia canescens* and *T. axillaris),* Nevada ephedra (*Ephedra nevadensis),* winter fat (*Krasheninnikovia lanata),* yellow rabbitbrush (*Chrysothamnus naseosus),* green rabbitbrush (*Chyrsothamnus teretifolious),* gold bush (*Ericameria cooperi),* and cheesebush (*Hymenoclea salsola).* During years of high precipitation, annual forbs are abundant and include species from the following genera: Cryptantha , Mentzelia, Linanthus, Phacelia, as well as genera in the Asteraceae Family.

The sagebrush/bitterbrush communities that comprise portions of the Marble Creek, and Hammil Valley allotments are dominated by sagebrush (*Artemisia tridentata* ssp. *vaseyana* and *Artemisia tridentata* ssp. *wyomingensis*), bitterbrush (*Purshia tridentata* var. *glandulosa* and *P. tridentata* ssp. *tridentata*. Understory grasses such as desert needlegrass (*Achnatherum speciosum*), and Indian rice grass (*Achnatherum hymenoides)* can make up 15-20% of the cover at the higher elevations of the alluvial fans. Galleta grass (*Pleuraphis jamesii*) makes up approximately 5% of the understory cover and is confined to the higher elevation sites as well.

The majority (80-90%) of the upland plant communities within these allotments have not been significantly impacted by livestock grazing because of the infrequent use and low number of animals that make use of these allotments as well as the general topography and rough terrain

which reduces livestock access. Generally, utilization of key forage species, e.g. desert needlegrass, hopsage, winterfat, budsage, and bitterbrush is slight to moderate and occurs in spring (March-early May). Forage capacity on these allotments is low and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment, and recovery (Clary and Holmgren 1987; Hughes 1982).

Riparian

Springs

The Chalfant Allotment contains several springs that are dominated by an overstory of willow (*S. lutea, S. lasiolepis*), rose (*Rosa woodsii* var. *ultramontana*) and an aquatic understory of *Lemna, Potomogeton* and *Rorippa* species, as well as bank forbs such as cardinal monkey flower (*Mimulus cardinalis*), streamside paintbrush (*Castilleja miniata*), and stream orchid *(Epipactis gigantea*). Tamarisk has been treated at spring #6-10-1C in the southern portion of the allotment and no other site infestations have been found. In the vicinity of spring #6-10-1C there is also an alkali meadow community which has a small population of *Calochortus excavatus*. None of these spring complexes have been impacted by cattle grazing.

Stream Reaches

Riparian vegetation on the Marble Creek allotment is found along the entire length of Marble Creek, and along Indian Creek for about 1/4 mile in Pellisier Canyon. The primary woody species are willows *(Salix lutea, S. lasiolepis, S. exigua)* and wild roses *(Rosa woodsii* var *ultramontana). H*erbaceous species are primarily comprised of bluegrasses *(Poa spp.),* sedges *(Scirpus* and *Carex spp.)* and rushes *(Juncus spp.)*.
Marble Creek is a perennial stream flowing across more than three miles of public land. The condition of riparian vegetation on the upper 2 miles of Marble Creek is generally good. The upper reach is densely vegetated and well shaded, and root systems bind the soil of the channel. Here the stream is surrounded by dense mature willows which function as a natural fence, promoting understory growth and protecting stream banks from erosion along much of the stream while allowing cattle access to water in several places. This reach is in Proper Functioning Condition (PFC) (BLM 1998) and meets riparian Desired Plant Community (DPC) goals established by the 1993 RMP.

The lower 1.2 mile of Marble Creek is in a degraded condition. The stream's course along this reach has changed at various times, and growth of woody vegetation has been held in check by grazing. As a result, the stream banks are not protected from cattle access and are subject to trampling, breakage, and compaction and resultant instability. Stream survey files document the poor condition of this reach in 1978, due to livestock use (BLM 1978); its condition has improved somewhat during periods of non-use since that time, but remains degraded compared to the upstream reach. This reach is in Functioning At Risk condition. Vegetation does not meet DPC goals in this reach.

B. Environmental Consequences

1. Impacts of Proposed Action

Impacts of the Proposed Action on the vegetation within these allotments is directly effected by grazing timing, intensity, and stocking rates. Current stocking rates are moderate and do not significantly impair the large-scale ecological function of these plant communities during non-drought years. Grazing does occur in spring which has been shown to increase shadscale (*Atriplex confertifolia)* and reduce bud sage (*Artemisia spinosa*) densities at moderate to high grazing intensities (Clary and Holmgren 1987). The key forage species which receive the most use at spring turn-out are the perennial bunch grasses. Continued grazing at current levels will affect very small portions (in the vicinity of water troughs and mineral blocks) of the allotments and not contribute to reductions in overall plant community ecological function as long as current Rangeland Health Guidelines are adhered to, e.g. 40% utilization. There may be increases in invasive weeds in proximity to high concentration use areas e.g. watering facilities and mineral blocks. The riparian vegetation along the lower reach of Marble Creek will continue to be at risk until the exclosure fence is constructed.

2. No Grazing

Under the No Grazing alternative, positive results to the ecological function (i.e. plant vigor) of these plant communities would occur.

3. Cumulative Impacts

Cumulative impacts may include changes in Department of Water and Power allotment management which could prompt permittees to seek out more grazing opportunities on Public Land.

C. Consultation

Coordination with the California Native Plant Society, Bristlecone Chapter

D. Maps

Allotment Assessment Maps

E. References

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Date: _____

Received by: _____ **Date:** _____

Environmental Coordinator

FINDING OF NO SIGNIFICANT IMPACTS

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action will not have any significant impacts on the human environment and that an EIS is not required.

There will be no effect on threatened or endangered species as a result of the action.

I have determined that the proposed project is in conformance with the Bishop Resource Management Plan, which was approved March 25, 1993. This plan has been reviewed, and the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

Currently, Marble Creek is pending a hearing and decision from the Office of Hearings and Appeals. Therefore, a 10-year grazing permit will be withheld until a final decision is made.

Furthermore, it is my decision to implement the proposed action and issue 10-year grazing permits with the currently used standard grazing stipulations to the grazing operators for the other six allotments. Livestock grazing management on these six allotments will remain unchanged from past use, but subject to adherence with the Central California Rangeland Health Standards and Guidelines and RMP decisions pertaining to livestock use. The Rangeland Health Assessments conducted, indicate that there are no significant environmental impacts from current use and the allotments all meet the Rangeland Health Standards.

Authorized Official:

Field Manager, Bishop Field Office

Date: _____